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The Effectiveness of The Jigsaw Cooperative Learning Model Assisted by Wordwall Application on Citizenship Competence (A Quasi-Experimental Study of 8th Grade Students at SMP Muhammadiyah Bumiayu)

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ABSTRACT

This study aims to determine the extent to which the Jigsaw cooperative learning model, assisted by the Wordwall application, affects the formation of citizenship competence in the subject of the Youth Pledge within the framework of Bhinneka Tunggal Ika. The research method used quasi-experimental with a Nonequivalent Control Group Design. The sample includes Grade VIII A as the control group (n=35) and Grade VIII B as the experimental group (n=35). Data collection techniques included tests, questionnaires, observations, interviews, and documentation, analyzed using the Paired Sample Test and Independent Sample T-Test with a significance level of 5%, resulting in 0.000 0.05, indicating that the Jigsaw cooperative learning model assisted by the Wordwall application is effective in developing students' citizenship competence. The results show a significant difference between the experimental and control groups. Citizenship knowledge improved to 86% in the experimental group compared to 76% in the control group, citizenship skills to 86% compared to 76%, and citizenship attitudes or character to 79% compared to 64%. The Effect Size test result was 2.166, categorized as a high effect. This is evidenced by the study's findings that the Jigsaw cooperative learning model assisted by the Wordwall application significantly affects students' citizenship competence in the subject of the Youth Pledge within the framework of Bhinneka Tunggal Ika at SMP Muhammadiyah Bumiayu.

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1. INTRODUCTION

Education is an effort to educate the life of the nation and state. Learning is a process of interaction that occurs between students and teachers in the school environment to exchange ideas. Learning activities are carried out at all levels of education, from elementary to high school. The success of a learning process in formal education cannot be separated from a teacher. In addition, learning is successful if a teacher has the right strategy or model or learning method. According to Kahar et al., (2020:280)teachers should have creativity and innovation in using models, strategies in creating meaningful learning and can collaborate on various appropriate learning media based on the material to be delivered to achieve learning objectives.

PPKn learning is one of the subjects which can form a diverse self in terms of religion, language, socio-culture (Prditya, 2019). According to Branson: (1999: 7) the essence of PPKn learning for students is that in addition to thinking critically, rationally, and creatively in dealing with a circulating issue, students are given the opportunity to develop positively and democratically.

Learning is one of the processes of a person to gain experience from the environment to change behavior to be good because of the good motivation of a person's knowledge, skills, and habits in his environment. According to Wahab and Rosnawati (2021:37-50), there are two factors that affect learning, including internal factors and external factors. Internal factors include: a) physiological factors, which are factors related to a person's physical condition; b) Psychological factors, which are the psychological state of a person that can affect the learning process; c) concentration of learning, an ability to decide attention on learning, the concentration of attention is focused on the content of the learning material and the process of obtaining it; d) self-confidence, this feeling arises from the desire to manifest oneself to act and succeed; e) learning; f) students' ideals, having aspirations that have been started since elementary school is one of the manifestations of exploration and self-emancipation in students. Extraterrestrial factors are divided into 2 groups, namely: a) Social Environment, such as teachers, administration, and classmates can affect the learning process of students. B) Non-social factors, these factors are the influence of students' learning are natural conditions (natural conditions), instrumental factors (learning tools) and subject matter factors.

In addition to the learning factor, there are also learning principles. according to Wahab & Rosnawati (2021: 56-58) the principles of learning are 1) the principle of readiness, the condition of students holding an important element in the principle of readiness, if the student's condition allows the creation of motivation to learn; 2) Motivation Principle, which is the student's constance that directs activities and maintains these conditions; 3) the principle of perception, which is the interpretation of an individual's life situation that is influenced by the individual's own behavior; 4) the principle of objectives, which is a special goal that each individual student wants to achieve; 5) the principle of individual differences, teachers must pay attention to individual differences in the class, provide ease in achieving the highest possible learning goals; 6) the principle of transfer and retention, learning is considered beneficial when a person is able to store and apply learning results in new situations; 7) the principles of cognitive learning, involving associations between elements, concept formation, problem formulation, and problem-solving skills; 8) the principle of affective learning, including elements of emotions, encouragement, interest and attitude; 9) The principle of learning evaluation, has an impact on the current learning process, and the implementation of evaluation allows students to test progress in achieving a teaching goal. The learning theory that underlies Jigsaw-type cooperative learning is the theory of Constructivism where this theory is constructive in terms of ability, understanding in a learning process.

PPKn learning is one of the subjects which can form a diverse body in terms of religion, language, and socioculture (Praditya, 2019)According to Branson: (1999:7) the essence of PPKn learning for students is that in addition to thinking critically, rationally, and creatively in dealing with a circulating issue, students are given the opportunity to develop positively and democratically. Based on the description above, it can be concluded that the purpose of PPKn learning is to make students able to think critically, rationally on the issues that are circulating and be able to live in a democracy to form an identity to live together with other nations.

PPKn learning so far is still characterized by learning that is dominated by teacher activities rather than students. As the times develop, teachers are required to be active in using media properly and correctly, besides that teachers must know more about the characteristics of students in order to determine the right learning model to use. During learning, if the learning model is used appropriately, it will affect the learning outcomes of students. Pesrta Didik is much more enthusiastic in learning and focuses on learning

The number of learning models can make the teaching and learning process more varied, one of which is the cooperative learning model. According to Harefa dkk (2022:328) cooperative learning is a directed, integrated, effective and efficient model of group learning activities to find or study something through the cooperation process so that a very productive learning process and outcomes are achieved, strengthened by the views of Carroline (2018:67) Cooperative learning is a form of learning for students to learn to work in small groups consisting of 4-7 people with a homogeneous structure. Basically, cooperative learning contains the meaning of a common attitude or behavior in working or helping each other in an orderly cooperation structure in a group consisting of two or more people where the success of work is greatly influenced (Tukiran et al., 2011: 56) From the above opinion, it can be concluded that cooperative learning is a group learning model where students are required to be active in the group and trained to work together in a team so as to make the learning atmosphere fun and provide good learning results.

According to Hasanah & Himami (2021:7) stated that in cooperative management there are various types, namely: student Tea Achievements division (STAD),Group Investigation, tipe Structural, Jigsaw,Teams Games Tournament (TGT), Two Stay-Two Stray. Of these 6 types of cooperative learning, one of them is the Jigsaw.

One part of cooperative teaching is the cooperative Jigsaw-type.This Jigsaw-type cooperative learning model is designed to increase the sense of responsibility of students for their own learning and for learning from

others. Students not only learn the material shared by the teacher, but they also have to present and work on the material to other members, thus students depend on each other to work together to learn the assigned material. According to Elliot Aronson (in Lubis & Harahap, 2016: 98) there are 10 stages in implementing Jigsaw-type cooperative learning , namely: 1) dividing students into Jigsaw groups with a total of 5-6 students; 2) Assigning one of the students to be the group leader; 3) divide the material to be discussed; 4) assigning students to learn one material; 5) providing opportunities for students to read each material with a predetermined time; 6) forming a group of experts representing the group from jigsaw to discuss or discuss the main points of their material and practice presentations; 7) each student from the expert group Return to the Jigsaw group; 8) each student prepares the material he or she learns to other groups and gives opportunities for other students to ask questions; 9) teachers go around from one group to another; 10) The teacher provides an evaluation or test according to the material shared.

Citizenship competence is according to a knowledge, value, attitude, and skill of students to become participatory citizens and responsible for the life of the community and the nation (Komalasari, 2011). Branson (1999:8-9) affirms the purpose of civic Education is a quality and responsible participation in political life and the community at the local and national levels. The national standards for civics and government (center for civic education, 1994) formulating the main components in the civic Competences which includes civic knowledge (Civic Knowledge), Citizenship Skills (Civic Skill), attitude or character of citizenship (Civic Disposition).

Civic Knowledge is a meaning that is tied to information that every citizen should have. Citizenship knowledge refers to the ability of individuals as citizens to understand the basic concept of citizenship. Teachers can measure citizenship knowledge through tests or evaluations to students, to find out the extent to which students master the scientific aspects that have been studied,

Civic Skill is a skill that is developed from the acquisition of something meaningful. Civic Skills include intellectual skills and parcipation skills The intellectual skills that are important for the formation of a citizen are knowledgeable, effective, and responsible is the skill of critical thinking. The National Standards For Civics And Government and The Civics Framework For 1998 National Assessments Of Educational Progress (NAEP), emphasize critical thinking skills including the skills of identifying, making descriptions, explaining and analyzing, and evaluating, taking and defending opinions on public issues. Participatory skills include the skills of interacting, monitoring and influencing. Teachers can measure students' thinking skills through the way they communicate through discussions, through the ideas they discuss or the opinions they express.

According to Branson (1999: 23), civic disposition develops slowly as a result of what a person has learned and experienced at home, school, community, and civil society organizations. The nature of citizenship is divided into two, namely public and private. Private character includes moral responsibility, discipline and respect for the dignity and dignity of human beings of every individual is mandatory, while public character is no less important, it includes concern as a citizen, politeness, heeding the rules of law, critical thinking, and the willingness to listen, negotiate, and compromise are indispensable characters for democracy to run successfully. Teachers can measure students' civic disposition by observing students' attitudes during learning. Students can give a good attitude to teachers or fellow friends. This is in learning there is an attitude assessment while learning is ongoing.

Wordwall It is a website-based digital platform in which there are learning media in the form of quizzes, word searches, groupings and others. According to Aeni dkk (2022:1837) states that the Wordwall application is designed for teachers in measuring the level of students' understanding of the subject matter. Wordwall learning media helps learning to be effective to achieve learning goals.

Jigsaw-type cooperative learning aims to enable students to discuss with each other well, practicing cooperation between students with each other. Get the right answer by arguing with each other. This model can affect the learning outcomes of students to be used at all levels of education, because through the learning of the Jigsaw-type cooperative model, it is hoped that students will acquire knowledge, skills, and actively participate in PPKn learning by the way the teacher explains the material, forms a group and gives a group number and the group representative presents the results of the group discussion in front of the class in turn. So students present ideas, opinions, ideas related to the material that has been given to other students, this trains students to dare to participate in expressing their opinions. From here, the researcher chose a Jigsaw-type cooperative learning model.

This research is based on research researched by Rahma Ayu Utami1, Edy Herianto2, Sawaludin, (2023) entitled "The Effect of the Implementation of Quizizz-assisted Jigsaw Type Cooperative Learning on Student Learning Outcomes in Grade VII PPKn Subjects at SMPN 10 Mataram" this study was conducted to find out whether there is an effect of the implementation of the Quizizz-assisted Jigsaw Type cooperative learning model on student learning outcomes in PPKn subjects at SMPN 10 Mataram.

Based on the background that has been described above, it is possible to find out the problems in PPKn learning, therefore, the formulation of the problem is: How does the Jigsaw-type cooperative learning model assisted by the wordwall application in PPKn subjects affect civic competence. The purpose of this study is to analyze the effect of Jigsaw-type cooperative learning assisted by wordwall application in PPKn subjects on civic

competence. The results of this study are expected to be useful as information for teachers in choosing a Jigsaw-type cooperative learning model assisted by a wordwall application in accordance with the subject, learning materials, infrastructure, available time, and student characteristics.

2. METHOD

This type of research uses a quantitative research method. According to Sugiyono (2017:14), the quantitative research method is a research approach rooted in the philosophy of positivism, which is applied to research certain populations and samples. Sampling techniques are generally carried out randomly and data is collected through research instruments. Data analysis is carried out quantitatively or satatically, with the aim of testing previously formulated hypotheses. This study uses Quasi Experimental where the researcher uses two classes, namely the experimental class and the control class. The design of this study uses a nonequivalent control group design. This study uses 2 classes, namely the experimental class and the control class in class VIII of SMP Muhammadiyah Bumiayu. Taking experimental and control classes is carried out by several methods, namely by selecting class pairs (Pair Matching) with the classification of the two classes having the same average value. Data collection techniques use tests, questionnaires, interviews, and documentation. The data collection instrument uses a valiidtas and reliability test. Data analysis uses normality tests, homogeneity, and hypothesis tests.

3. RESULTS AND DISCUSSION

The results of the descriptive analysis of each variable showed very significant results. It can be seen from the results of the comparison of *Pretest* and *Posttest results* between the control class and the experiment

Table 1. Comparison of *Pretest* and *Posttest Results* in the Experiment Class and Youth Pledge Material Control Class in the Framework of Bhinneka Tunggal ika

Variable	**Experimental class**		**Class control**	
	Pre	**Post**	**Pre**	**Post**
Jigsaw-type cooperative learning model	79	87	-	-
Knowledge of citizenship	65	86	57	76
Citizenship skills	71	86	64	71
Attitude or character of citizenship	67	79	67	64

Based on the results of data processing, it can be seen that the variable results of the jigsaw-type cooperative learning model in the youth oath material in the frame of bhinneka Tunggal ika in the experimental class have increased, before the treatment was carried out the percentage was 79%, after the treatment was carried out there was an increase of 87%. The variable of civic knowledge in the experimental class increased after Jigsaw-type cooperative learning Youth oath material in the framework of bhinneka tunggal ika, before the treatment obtained a percentage of 65%, after the treatment was carried out by 86%.

The Civic Skill variable in the experimental class increased after Jigsaw-type cooperative learning Youth oath material in the frame of bhinneka tunggal ika, before the treatment obtained a percentage of 71%, after the treatment was carried out by 86%. The variable of attitude or disposition of Civic Disposition in the experimental class increased after Jigsaw-type cooperative learning Youth oath material in the framework of bhinneka tunggal ika, before the treatment obtained a percentage of 67%, after the treatment was carried out by 79%. Based on the comparison table in the control class, the expository learning model was used on the youth pledge material in the framework of Bhinneka Tunggal ika.

The variable of civic knowledge in the control class increased after learning expository youth oath material in the framework of bhinneka tunggal ika, before the treatment was carried out a percentage of 57%, after the treatment was carried out by 76%. The variable of civic skills in the control class increased after expository learning of the youth oath material in the framework of bhinneka tunggal ika, before the treatment was carried out obtained a percentage of 64%, after the treatment was carried out by 71%. The variable of attitude or civic disposition in the control class decreased after learning expository youth oath material in the framework of bhinneka tunggal ika, before the treatment obtained a percentage of 67%, after the treatment was carried out by 64%.

HYPOTHESIS TEST

In this study, the hypotheses tested were:

Ho : The Jigsaw type cooperative learning model assisted by Wordwall application is not effective in the youth pledge material in the framework of Bhinneka Tunggal ika for students in control classes and experimental classes at Muhammadiyah Bumiayu Junior High School.

Ha : The Jigsaw type cooperative learning model assisted by Wordwall application has an effect on the youth oath material in the framework of Bhinneka Tunggal ika for students in control classes and experimental classes at Muhammadiyah Bumiayu Junior High School.

The normality test is the process of creating a distribution graph on the existing score. The normality test on this civic competency variable measured using SPSS 26 can be seen as follows:

Tests of Normality

	Class	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Mr.	Statistic	df	Mr.
Hasil_ Competence Citizenship	1	.118	35	.200*	.966	35	.332
	2	.077	35	.200*	.972	35	.503
	3	.112	35	.200*	.979	35	.727
	4	.094	35	.200*	.964	35	.303

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the normality test table on the citizenship competency variable, it can be concluded that both from Kolomogrov -Smirnov and

Shapiro-Wilk data is normally distributed, because the sig value is more than 0.05.

The homogeneity test was carried out to determine whether the population varinas in the study was the same or not. Homogeneity test using SPSS 26. The results in the civic competency variable, the Significant Value (Sig) Based on Mean is 0.072 > 0.05. It can be concluded that the data variance of *the control* class and the *experimental class posttest* data is homogeneous.

The Paired Sample T-Test was used to determine the difference in the average paired sample and to find out whether there was an influence of the Jigsaw-type cooperative learning model assisted by the Wordwall application on civic competence. The following are the results of the paired sample T-Test measured using SPSS 26:

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest Class Control – Postest Class Control	-20.486	17.542	2.965	-26.512	-14.460	-6.909	34	.000
Pair 2	Pretest Class Experiment – Posttest Experimental Class	-62.200	20.841	3.523	-69.359	-55.041	-17.657	34	.000

In the civic competency variable, the output result of pair 1 was obtained by Sig. (2-tailed) of 0.000 < 0.05, so it can be concluded that there is a difference in the average results of *the control class* pretest and the *control class posttest*. Meanwhile, in Pair 2, the Sig. (2-tailed) value was obtained of 0.000 < 0.05, so it can be concluded that there is a difference in the average results of *the experimental class pretest* and the *experimental class Posttest*. The Independent Smaple T-test variable citizenship competency data is distributed homogeneously,

so the data from the independent t-test results can be seen from the Equal Variances assumed, resulting in a Sig. (2-tailed) of 0.000 < 0.05. Therefore, it can be concluded that there is a significant difference between the results *of the posttest* of citizenship competency of the experimental class using a jigsaw-type cooperative learning model assisted by *the Wordwall application* and the results *of the posttest of citizenship competency of the control class using the exspository* learning model. The average between the control class and the experimental class can be seen in the following table:

Group Statistics

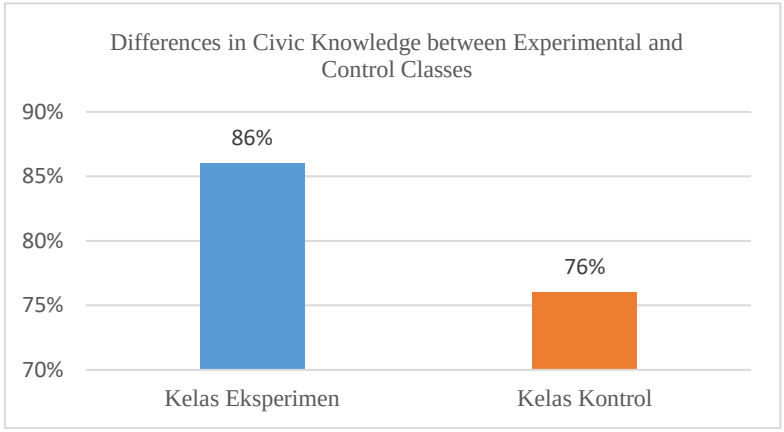
	class	N	Mean	Std. Deviation	Std. Error Mean
hasil_kompetensi Citizenship	Control	35	274.86	19.701	3.330
	Eksperimen	35	332.43	14.076	2.379

Based on the table data above, the mean value of the control class was 276.86 while the mean value of the experimental class was 332.43. This shows that the average value of the experimental class is higher than the average value of the control class. This means that Ha is accepted and Ho is rejected. It can be concluded that the *jigsaw-type* cooperative learning model assisted by Wordwall *amulification* has an effect on civic competence.

DISCUSSION

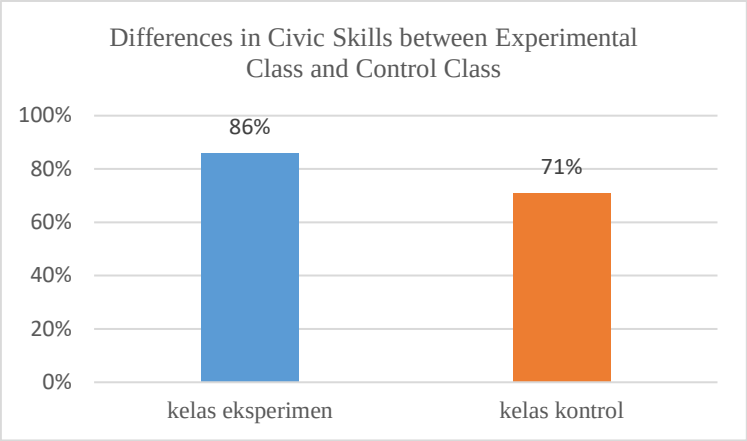
There are differences in Civic Knowledge, Civic Skills and Civic *Dispositions in the* Youth Pledge in the Framework of Bhinneka Tunggal Ika.

Citizenship knowledge in students in the experimental class and students in the control class had a significant difference, namely > 0.05. Based on the data on the percentage of civic knowledge between the experimental class and the control class with a comparison of 86% and 76%. This shows that there is a difference in civic knowledge in the youth oath material in the framework of Tunggal ika diversity compared to students in the control class. The magnitude of the difference in civic knowledge between the experimental class and the control class can be seen from the graph below:



Graph 1. Comparison of civic knowledge of the experimental class and the control class

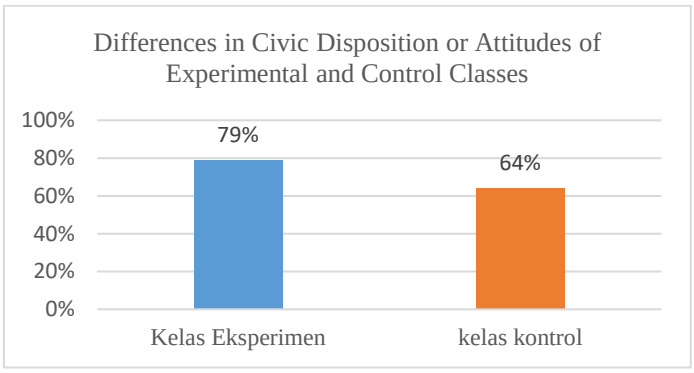
Based on the graph above, there is a significant difference between the experimental class and the control class. in the experimental class using the Jigsaw-type cooperative learning model , the results were higher by 86%, while in the control class using the Expository learning model the results were lower by 76%. This is evidenced by the results of interviews and observations, in general, PPKn teachers at Muhammadiyah Bumiayu Junior High School still use the lecture method. From this study, the researcher wants to prove that the Jigsaw-type cooperative learning model has an effect on students' civic knowledge. Citizenship skills in the experimental class students and the control class students had a significant difference, namely > 0.05. Based on the data on the percentage of citizenship skills between the experimental class and the control class with a comparison of 86% to 76%. This shows that there is a difference in citizenship skills in the youth oath material in the framework of Bhinneka Tunggal ika compared to students in the control class. The magnitude of the difference in citizenship skills between the experimental class and the control class can be seen from the graph below:



Graph 2. Comparison of Citizenship Skills of the experimental class and the control class

Based on the graph above, there is a significant difference between the experimental class and the control class. in the experimental class using the Jigsaw-type cooperative learning model , the results were higher by 86%, while in the control class using the Expository learning model, the results were lower by 71%. This is evidenced by the results of interviews and observations, in general, PPKn teachers at Muhammadiyah Bumiayu Junior High School still use the lecture method, this is proven during learning there is no interaction between teachers and students or mutual relationships. From this study, the researcher proves that the *Jigsaw-type* cooperative learning model provides opportunities for students to demonstrate their skills through presentations or discussions with students.

There was a significant difference in the attitude or character of citizenship in the experimental class students and the control class students, which was > 0.05. Based on the data on the percentage of attitudes or civic dispositions between the experimental class and the control class with a comparison of 79% to 64%. This shows that there is a difference in attitudes or civic dispositions in the youth oath material in the framework of Tunggal ika diversity compared to students in the control class. The magnitude of the difference in attitudes or civic dispositions between the experimental class and the control class can be seen from the graph below:



Graph 3. Comparison of Attitudes or Civic Traits of the experimental class and control class

Based on the graph above, there is a significant difference between the experimental class and the control class. in the experimental class using the Jigsaw-type cooperative learning model, the results were higher by 79%, while in the control class using the Expositorial learning model the results were lower by 64%. This is evidenced by the results of interviews and observations, in general, PPKn teachers at Muhammadiyah Bumiayu Junior High School still use the lecture method, as evidenced by the fact that during learning there is no interaction between teachers and students, students still talk to their tablemates during learning. From this study, the researcher proves that the Jigsaw-type cooperative learning model provides opportunities for students to show their attitudes through presentations or discussions with students or their attitudes in participating in learning.

This explanation proves that the cooperative learning model of the *Jigsaw* effective in shaping civic competence, strengthened by the views of Havoc DK (2020:279) Cooperative Learning Model Type *Jigsaw* able to have an impact on improving learning outcomes, on the other hand this model also has the implication of changing students' attitudes when participating in the learning process directly in the classroom and provides a direct effect of providing benefits for learning outcomes and life outside the classroom. One of the factors that

determines the success of the learning process and the achievement of learning goals is the existence of a learning model. A significant increase in value is influenced by the presence of *Treatment* namely using a cooperative learning model of the *Jigsaw* where students to think actively and require students to read in order to get high scores (Rosyidah, 2016).

Based on this explanation, it is evidenced by the data obtained in the experimental class using a Jigsaw-type cooperative learning model which obtained an average percentage higher than that of the control class.
The provisional conclusion in this study is that the Jigsaw-type cooperative learning model is quite effective in shaping students' civic competencies in the Youth Pledge material in the framework of Bhinneka Tunggal ika at Muhammadiyah Bumiayu Junior High School. This is shown based on the results of the comparison of the experimental class and the control class, where the experimental class obtained a percentage of Citizenship Knowledge of 86%, citizenship skills of 86% and attitudes or civic dispositions of 79% and the control class obtained a percentage of Citizenship Knowledge of 76%, Citizenship Skills of 71% and civic attitudes or dispositions of 64%. This means that the experimental class obtained higher results compared to the control class.

4. CONCLUSION

The implementation of the Jigsaw-type cooperative learning model assisted by the Wordwall application has increased, this is shown from the percentage result of 79% increasing to 87%. In the aspect of civic competence, the Experimental Class using a Jigsaw-type cooperative learning model assisted by the wordwall application Youth Pledge Material in the Frame of Bhinneka Tunggal ika on Civic Knowledge obtained a percentage of 86%, civic skills obtained a percentage of 86%, Attitude or disposition of Citizenship (civic Disposition) obtained a percentage of 79%. The control class using the Expository learning model of Youth Pledge Material in the Frame of Bhinneka Tunggal ika on Civic Knowledge obtained a percentage of 76%, civic skills obtained a percentage of 71%, and civic disposition obtained a percentage of 64%. This means that Jigsaw-type cooperative learning assisted by Wordwall applications has an effect on civic competence

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